guidelines recommendations and positive effect of ACE inhibitors on hypertension control, the use of ACE inhibitors in hypertensive patients suffering from diabetes mellitus was suboptimal at Penang Hospital.

PCV20

DURATION OF ACTION OF ALISKIREN IN HYPERTENSIVE PATIENTS WITH DIABETES – IMPLICATIONS FOR CONTROL OF BLOOD PRESSURE IN REAL-WORLD USE IN IMPERFECTLY ADHERENT PATIENTS

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OBJECTIVES: Diabetes increases cardiovascular (CV)/renal risk and thus also increases the importance of optimal control of blood pressure (BP), which is generally poor among hypertensive patients with diabetes. Poor adherence to antihypertensives is common. Electronic monitoring has shown that treatment lapses among hypertensives frequently exceed the duration of action of most antihypertensives, allowing the BP to rise, and reducing these drugs' real-world effectiveness by increasing CV risk. Use of long-acting antihypertensives may improve BP control among subjects who, like most, miss doses occasionally. Aliskiren, a direct renin inhibitor, has been shown in the general hypertensive population to suppress BP well beyond its 24-hour dosing interval. Its BP-lowering effect is almost uninfluenced by a single missed dose, and remains strong after treatment interruptions of a week (longer than almost all dosing errors). This study examines the duration of action of aliskiren among hypertensive patients with diabetes. **METHODS:** BP data from one to 28 days post-withdrawal, from diabetic subjects in six clinical trials, were modeled to estimate the extent to which use of aliskiren will ameliorate the effects of imperfect adherence among diabetic subjects, compared to other antihypertensives. **RESULTS:** Thirty-four diabetic subjects had their BP measured 24 hours after treatment withdrawal (48 hours after the last dose). The mean (95% CI) increase in systolic BP from pre-withdrawal baseline was 0.8 (-3.1 to +4.7) mmHg. Seventy-three diabetic subjects had their BP measured either six or seven days after withdrawal. The mean (95% CI) increase in systolic BP from the pre-withdrawal baseline was 3.4 (+0.8 to 6.1) mmHg. **CONCLUSIONS:** Among diabetics, as in the general hypertensive population, aliskiren retains much of its effect for a week after stopping treatment. Its duration of action in diabetic subjects covers the majority of dosing errors. This may confer advantages over other treatments.

PCV21

CLINICAL EFFICACY OF BISOPROLOL COMPARED TO ATENOLOL IN REDUCING THE IN-CLINIC AND AMBULATORY BLOOD PRESSURE IN HYPERTENSIVE PATIENTS

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OBJECTIVES: The objective was to evaluate the clinical efficacy of bisoprolol compared to atenolol in reducing the in-clinic and ambulatory blood pressure in patients with mild to moderate hypertension. **METHODS:** Studies were retrieved from Embase, Pubmed, and Cochrane databases using relevant search strategies. Randomised controlled trials which compared bisoprolol with atenolol were included according to pre-specified inclusion/exclusion criteria. The outcomes of interest were reduction in in-clinic systolic/diastolic blood pressure, 24-hour ambulatory BP (ABP), and reduction in heart rate. Two reviewers independently extracted data from the included studies. Data was meta-analysed using RevMan (v5). **RESULTS:** Of the 1056 studies identified, 11 studies met the inclusion criteria. In total, 624 patients were randomised to bisoprolol, and 683 were randomised to atenolol. Seven of the included studies were double-blind, three were single-blind and one was open-label study. The Jadad score of eight studies was ≥3 and were of high quality. The study duration of included studies ranged from 8-weeks to 52-weeks. Results of meta-analysis showed a significantly better reduction of clinical systolic BP with bisoprolol compared to atenolol (WMD: 3.07 (1.79, 4.35, $p<0.00001$). The reduction in clinical diastolic BP was significantly better with bisoprolol compared to atenolol (2.68 (1.88, 3.48, $p<0.00001$). The systolic ABP was significantly reduced with bisoprolol compared to atenolol ($p<0.001$). The reduction in diastolic ABP was more with bisoprolol but was not significantly better. A significantly better reduction in heart rate was achieved with bisoprolol compared to atenolol (1.81 (0.97, 2.65, $p<0.0001$). **CONCLUSIONS:** This review has included the evidence to date with regards to reduction of clinical and ambulatory blood pressure with bisoprolol compared to atenolol. This review concludes that bisoprolol is significantly better than atenolol in effectively reducing the in-clinic BP, ambulatory BP and heart rate in patients with mild to moderate essential hypertension.

PCV22

GEOGRAPHIC VARIATION TRENDS IN CRITICAL LIMB ISCHEMIA PREVALENCE IN THE UNITED STATES

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OBJECTIVES: To examine the geographic variation trends in the annual prevalence of critical limb ischemia (CLI) in the US elderly population. **METHODS:** Using national medical claims data from 2006 through 2008, all patients who were aged 65 years or older and diagnosed with CLI were identified. The direct standardization method was used to assess year, age, gender, race and diabetes-adjusted prevalence of CLI. The change in prevalence of CLI over the 3 years was assessed and the variation in the prevalence of CLI was tested by state. **RESULTS:** Geographic variation in the prevalence of CLI was obtained for patients over the age of 65 when adjusted by age, gender, race and diabetes status. Although approximately constant prevalence of CLI was reported in Utah (less than 0.15%) and Maryland (greater than 0.30%), a progressively increasing prevalence of CLI was observed in Montana (2006: 0.149%; 2007: 0.163.%; 2008: 0.277%) and Delaware (2006: 0.245%; 2007:0.247%; 2008: 0.330%) while progressively decreasing prevalence of CLI was observed in Arkansas, Colorado, Georgia, Ohio, Virginia, West Virginia, and Washington. The total trend over 3 years followed the pattern of higher rates in eastern states and lower rates in western states. **CONCLUSIONS:** The spatial distribution of CLI prevalence is uneven and strongly suggests a geographic variation of CLI risk areas. Targeted prevention and treatment could help gain better control of CLI in the United States.

PCV23

CLOPIDODGREL AND STATIN PRESCRIBING PATTERNS IN ACS PATIENTS – AN OBSERVATIONAL STUDY USING LINKED SECONDARY AND PRIMARY CARE DATA IN A UK POPULATION 2003-2009

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OBJECTIVES: To use a novel linkage database to describe prescribing patterns in patients discharged from hospital with acute coronary syndrome (ACS) over a period of changing national guidelines. **METHODS:** Unique identifiers were used to link patients in a hospital registry (Myocardial Ischaemia National Audit Project), with longitudinal primary care data (General Practice Research Database). This retrospective observational study examined post-discharge prescribing patterns for unstable angina (UA), non-ST elevation myocardial infarction (NSTEMI) and ST elevation MI (STEMI). The population comprised patients ≥40 years, hospitalised for ACS from 2003-2009, discharged home, with ≥3 months follow-up. Patients were followed from discharge until death, or censoring. A patient was classified as discontinued if they had no further prescription within the duration of a prescription plus a grace period of 90 days. **RESULTS:** Of the 7,888 linked patients with at least 3 months of follow-up, 865 had a discharge diagnosis of UA, 4108 NSTEMI and 2915 STEMI. Overall 412(48%) UA, 2820(69%) NSTEMI and 1830(63%) STEMI patients were treated with clopidogrel in primary care within 3 months of discharge. The proportion of UA patients treated remained relatively stable over the study period (2003:47%, 2009:38%), in contrast prescribing increased in NSTEMI (2003:41%, 2009: 78%) and STEMI patients (2003:24%, 2009:87%). Statin use was high in all three groups (734(85%) UA, 3609(88%) NSTEMI, 2784(96%) STEMI) and remained so throughout the study period. The median time until discontinuation of medicine was 12 months for clopidogrel and >24 months for statin across all three ACS types. Patterns of discontinuation remained constant across all study years. **CONCLUSIONS:** The proportion of patients with STEMI and NSTEMI treated with clopidogrel increased from 2003 to 2009, in line with national guideline recommendations. However there was no evidence that clinicians differentiated length of therapy by type of ACS.

PCV24

PHARMACOEPIDEMIOLOGY AND PHARMACOECONOMIC ASPECTS OF USE OF ACE INHIBITORS IN SERBIA COMPARED WITH MONTENEGRO IN 2009

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OBJECTIVES: The aim of the study was to analyze use of ACE inhibitors in Serbia compared with Montenegro in year 2009. **METHODS:** Data about use of ACE inhibitors in Serbia and in Montenegro in 2009 taken from Republic Institute for Health Insurance from Serbia and from Health Service Fund of Montenegero. **RESULTS:** Use of ACE inhibitors in Serbia in 2009 was 179,26 DDD/1000 inh/day and in Montenegro was 83,32 DDD/1000 inh/day. In Serbia 5.977.289,00€ has been spent for ACE inhibitors and in Montenegro 2.488.464,95€ in the same year. In Serbia on the first place is enalapril with 78,32 DDD/1000 inh/day or 44,43%, on the second place fosinopril with 20,09 DDD/1000 inh/day or 11,40%, while on the third place is ramipril with 19,11 DDD/1000 inh/day or 10,84% of total drug utilization in this subgroup. Amount spent on enalapril was 1.717.416,00€ or 28,73%, on fosinopril 1.116.972,00€ or 18,69%, and on ramipril 470.937,00€ or 7,88% of total finances spent on this subgroup C09 in year 2009. In Montenegro on the first place are lisinopril and hydrochlorothiazide with 19,62 DDD/1000 inh/day or 23,55%, on the second place are fosinopril and hydrochlorothiazide with 12,77 DDD/1000 inh/day or 15,33%, while on the third place is fosinopril with 11,92 DDD/1000 inh/day or 14,31% of total drug utilization inside this subgroup. Money spent on lisinopril and hydrochlorothiazide are 425.547,30€ or 17,10%, on fosinopril and hydrochlorothiazide 762.333,74€ or 30,63%, and on fosinopril 533.307,43€ or 21,43% of total finances spent on this subgroup C09 in the year 2009. **CONCLUSIONS:** Comparing the consumption of ACE inhibitors in Serbia and Montenegro in the year 2009, it becomes clear that the combination of ACE inhibitors with diuretics is most frequently used in Montenegro, while in Serbia the use of this combination is on the the fifth place in this group of drugs.

PCV25

CHARACTERISING PATIENTS WITH A FIRST-TIME ADMISSION FOR ATRIAL FIBRILLATION IN THE UNITED KINGDOM

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OBJECTIVES: To characterise patients with atrial fibrillation (AF) in a UK secondary care centre. **METHODS:** Eligible patients admitted to Llandough Hospital (Cardiff, UK) as an emergency with AF (ICD10 code: I48X), and discharged between 1/10/2009